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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/627,572	07/28/2000	Haixiang Liang	1005-0017	2338
22120	7590	07/13/2005	EXAMINER	
ZAGORIN O'BRIEN GRAHAM LLP			FAN, CHIEH M	
7600B N. CAPITAL OF TEXAS HWY.			ART UNIT	
SUITE 350			PAPER NUMBER	
AUSTIN, TX 78731			2638	

DATE MAILED: 07/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/627,572

Applicant(s)

LIANG, HAIXIANG

Examiner

Chieh M. Fan

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 January 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-41 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13, 40 and 41 is/are rejected.
- 7) ☒ Claim(s) 14-39 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Objections

1. Claims 1-41 are objected to because of the following informalities:

Regarding claim 1, --- wherein N is an integer, --- should be inserted after "N timing phases thereof" in line 3.

Regarding claim 14, --- wherein N is an integer, --- should be inserted after "impairments present therein" in line 3.

Regarding claim 33, --- wherein N is an integer, --- should be inserted after "impairments present therein" in line 7.

Regarding claim 39, "wherein N is selected" in lines 10-11 should be changed to --- wherein N is an integer and is selected ---.

Regarding claim 41, --- wherein N is an integer, --- should be inserted after "N phase intervals" in line 3.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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3. Claims 1-13, 40 and 41 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 1-13, claim 1 recites the limitation "the particular phases" in the last line. There is insufficient antecedent basis for this limitation in the claim.

Regarding claim 40, the scope of the limitation "other" recited in lines 3 and 4 cannot be determined and is therefore indefinite. The applicant is also invited to indicate which portion of the specification that supports the limitations of claim 40.

Claim 41 recites the limitation "the particular phases" in the last line. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1, 4-6, 11-13 and 41 are rejected under 35 U.S.C. 102(e) as being anticipated by Eyuboglu et al. (U.S. Patent No. 5,875,229, cited in previous Office Action, "Eyuboglu" hereinafter).

Regarding claim 1, Eyuboglu teaches a method of operating a communications device to compensate for one or more potential impairments in a communication channel (col. 2, lines 12-15), each periodic in N timing phases thereof, the method comprising: receiving a sequence via the communication channel and estimating symbols thereof, the sequence organized such that corresponding instances of one or more symbols of a predetermined set appear in each of the N phases (col. 11, lines 10-12); grouping the N phases into one or more groups thereof based on correspondence of respective estimates of the corresponding symbol instances (930 in Fig. 9); and for each group, compensating for an aggregate effect of the impairments on the grouped phases without identification of individual impairments active in the particular phases (940, 950, 960 and 970 in Fig. 9).

Regarding claim 4, Eyuboglu further teaches robbed bit signaling (RBS) (col. 2, lines 12-15).

Regarding claim 5, Eyuboglu further teaches the communication channel traverses a portion of public switched telecommunications network (PSTN) (col. 2, lines 12-15).

Regarding claim 6, wherein $N=24$ (col. 11, line 1).

Regarding claim 11, Eyuboglu also teaches an adaptive equalizer (460 in Fig. 4B).

Regarding claim 12, the compensating includes defining a constellation for use in the grouped phases (col. 15, lines 16-19).

Regarding claim 13, the claimed limitation is inherent for RBS.

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Regarding claim 41, Eyuboglu teaches an apparatus comprising: a receive path coupled to receive sequences susceptible to one or more impairments periodic in N phase intervals (col. 11, lines 10-12; col. 2, lines 8-11; also note that it is known there are other types of impairments such as transcoding and digital attenuation pad, as admitted in the background section of the instant application, see page 3, lines 1-2) and means for grouping the phase intervals according to apparent aggregate effect of the impairments thereon without identification of individual impairments active in the particular phases (930, 940, 950, 960, 970 in Fig. 9, the phase intervals are grouped into four groups 940-970 without identifying the amount of individual impairments, i.e., RBS, quantization noise, digital attenuation pad, in each phase interval).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eyuboglu et al. (U.S. Patent No. 5,875,229, cited in previous Office Action, "Eyuboglu" hereinafter) in view of Liao et al. (U.S. Patent No. 6,574,280, "Liao" hereinafter).

Eyuboglu teaches the claimed subject matter, as applied to claim 1 above, but does not particularly mention a Digital Impairment Learning (DIL) sequence. Liao teaches the use of DIL according to V.90 to identify any concurrent digital impairments such as RBS, digital pads and encoding low conversion (abstract, lines 10-14; col. 18, lines 18-22). As Eyuboglu also detects RBS (col. 10, lines 20-24), it would have been obvious to a person of ordinary skill in the art at the time the invention was made to transmit a DIL sequence, so as to comply with the standard V.90 to identify digital impairments.

Allowable Subject Matter

8. Claims 7-10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims and rewritten to overcome the claim rejections under 35 USC 112, second paragraph. Claims 14-39 would be allowable if written to overcome the claim objection above.

Response to Arguments

9. Applicant's arguments filed 1/11/05 have been fully considered but they are not persuasive.

With respect to the rejection of claims 1-13 under 35 USC 112, second paragraph, the applicant argues that "the grouped phases" in line 12 provides antecedent basis for the claimed "the particular phases".

Response --- The limitation "the grouped phases" does not provides antecedent basis for "the particular phases". There is nothing in the claim that indicates the grouped phases are the particular phases.

With respect to the rejection of claim 40 under 35 USC 112, second paragraph, the applicant argues that one of ordinary skill in the art would understand what is claimed in light of specification. The applicant further points out the claimed limitations are supported in the specification at least by the paragraphs beginning at page 8, line 12 and page 38, line 1.

Response --- Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). The intended scope of the claim is not clear because it cannot be determined what storage medium is the claimed "other magnetic, optical, or electronic storage medium" in line 3. Similarly, it cannot be determined what communications medium should be considered as the claimed "other communications medium" in line 4. Further, even the paragraphs cited by the applicant do not identify what may be considered as "other magnetic, optical, or electronic storage medium" and "other communications medium".

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chieh M. Fan whose telephone number is (571) 272-3042. The examiner can normally be reached on Monday-Friday 8:00AM-5:30PM, Alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth Vanderpuye can be reached on (571) 272-3078. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Chieh M Fan
Primary Examiner
Art Unit 2638

July 9, 2005